



## THE FIVE PORTS OF CHINA OPEN TO BRITISH TRADE.



INTERIOR OF A CHINESE FORT.

### II. FOO-CHOO-FOO.

Foo-choo-foo, the second in our list of the Chinese ports in which this country has now a powerful interest, is situated on the banks of the river Min, and is a town of much commercial importance. It is the capital of the province of Fokien, and lies to the north-east of Amoy on the same coast, at a distance of five miles from the sea.

The narrow passage at the mouth of the river Min is called Woo-foo-mun, and is in name nearly the same as the Bocca Tigris of the Canton river, to which it bears some resemblance. There is a ruined fort on each side, and various others are scattered about the hills on the banks of the river, but they merely serve to add to its picturesque beauty, being most of them perfect ruins, and all, with the exception of one at Mingan, entirely dismantled and untenanted. No war-boats of the description of those about Canton were found here; the only ones seen by Mr. Lindsay's party were small heavy boats, little different from the boats of the country. Two or three war-junks were seen lying at the Kwang-tow, where all vessels entering or quitting the harbour stopped to procure their permit. Mingan is distant about twelve miles from Woo-foo-mun; and the mountains on each side are cultivated in ridges to the very summit with wheat and vegetables.

For about five miles in the vicinity of Mingan, the river is contracted to a narrow channel of not more than a quarter

of a mile; and the mountains on each side rise abruptly to a height of several thousand feet. The scenery is highly beautiful, and strongly resembles that on the banks of the Rhine. A few miles above Mingan the river divides into two wide branches, the northern of which leads to Foo-choo. The banks of the river are here of the richest alluvial soil, and the mountains recede to some distance from the banks; one bold abrupt ridge, terminating in a perpendicular cliff on the southern side, is very remarkable. Having sailed about twenty-five miles from Woo-foo-mun, a forest of masts and several handsome pagodas intimated the vicinity of the capital; and finally we were gratified with a view of the far-famed bridge of Foo-choo-foo, of which the splendour and magnificence is celebrated over the whole empire. The town is here built on both sides of the river, and is perhaps about two-thirds the size of Canton. The bridge consists of thirty-three arches, or rather diamond-shaped piles of huge masses of granite, which support transverse blocks of enormous dimensions. The length of the bridge is four hundred and twenty yards, the breadth not above fourteen feet; and narrow as this is, a large portion is occupied with temporary shops. The depth of the river is three and four fathoms, with a very rapid current; the flood-tide is hardly felt, except by occasioning a rise in the water. As a work of labour the bridge is wonderful, but no symptoms of architecture or science are displayed; in many places it has sunk considerably, but from its massive structure, it has already stood the test of centuries, and will probably endure for many more. I confess we were disappointed after having read Du Halde's account of this wonderful bridge of one hundred arches described as follows:—"It (Foo-choo)

is chiefly famous on account of its situation, commerce, and multitude of learned men, the fertility of its soil, fine rivers that carry the largest barks of China almost up to its walls, and lastly, for a surprising bridge of more than one hundred arches, built with fine white stones across the bay."

In point of local and commercial advantages few cities of the empire are more favourably situated than Foo-choo. The fine river Min, which is navigable for ships of the largest burthen to within at least ten miles of the town, consists of three principal branches, which take their rise, one in the district of Kee-choo-foo, in the neighbouring province of Che-kiang, and after passing through the country of the Woo-e hills, in Keen-ning-foo, whence comes all the finest black tea, it unites with the other two branches which have their origin among the mountains of Keang-se, and take a serpentine course through the foot of Yinping, Ting-chow, Shaen-woo, and Yung-chuun, so that they join the other river shortly before it reaches the capital. The liberty of trading here is therefore of immense advantage, because the tea, which hitherto has been taken at a vast expense to Canton, will now be conveyed in boats from the very farms where it is cultivated, on board the ships. All the green tea grown in Che-kiang and Keang-nan will also find a comparatively easy transit by this route, although Ning-po is perhaps the port which presents the greatest facilities for the trade in raw silks and green teas. Foo-choo is also a far more central situation than Canton for the distribution of British woollen manufactures, which, from the coldness of the climate, must be in greater request here.

The principal trade of Foo-choo appears to be carried on with the neighbouring province of Che-kiang. Mr. Lindsay saw numerous vessels of this place lying in the river and daily entering and quitting the port: they are distinguished by their peculiar build, which adapts them only for coasting vessels, and their black cloth sails. Wood and timber are the chief articles of trade. Tobacco is largely exported; but up to the date of the recent treaty, tea, the staple produce of this part of the country, was not allowed to be transported by sea. The cause of this prohibition evidently arose from the fear that were it permitted, foreigners would avail themselves of it to get their supply without going to the port of Canton for it.

Dried fruits are exported from Foo-choo to all parts of the empire, and among them is mentioned a delicious species of orange, the pulp of which has the flavour of the muscadine grape, and forms an excellent preserve. The sugar made at this town is of excellent quality.

The hills in the neighbourhood of Foo-choo are covered with cedar, orange, and olive trees, and numerous pagodas and pretty country houses enliven the vicinity. The tiles on the latter are of a blue colour, and make a gay appearance when brightened up by the rays of the sun. But the fair exterior of Chinese towns and residences is generally deceptive, as the following observations of Mr. Gutzlaff will prove:—

Large and flourishing cities are found only where a ready water communication with other parts of the empire can be carried on. The greatest sameness exists in all the cities. In the larger ones are a few well-paved streets lined with shops; but the greater part of the streets are very narrow, extremely filthy, and planted with mere hovels. The suburbs of many cities are much larger than the cities themselves, and it is by no means extraordinary to see an immense walled space without any houses, where formerly a city stood. Villages and hamlets have a beautiful appearance at a distance; but on entering them, one sees nothing but a heap of houses irregularly thrown together, the outside fair to behold, but the inside without furniture or comforts, and more filthy even than a stable. This does not apply to one district only, but it is common to most.

Although the fields and gardens are beautifully laid out, there yet appears in them little attention to elegance or pleasure. The gardens are very few, and a Chinese grandee delights more in artificial landscapes, laid out in a small

compass, than in an extensive park, or a flower-garden. Utility is studied in preference to pleasure. The cultivation of grain is the all absorbing occupation of the majority of the nation; and every spot which can possibly yield a crop by dint of labour, is converted into a rice or corn-field.

The productions of the province of Fokien include musk and precious stones, silk, and cotton; iron, mercury, and pewter. Its hills are supposed to contain gold and silver, but there is an express prohibition to prevent these precious metals from being sought for. The bamboos which grow abundantly along the streams and water-courses of this province, are used for pipes to convey water up the sides of hills to the rice-grounds, and are also employed in the manufacture of chairs and tables.

Having noticed the chief points of interest connected with Foo-choo, we proceed to the accounts given by Commander Bingham, and Professor Kidd, of some Chinese diversions and ceremonies practised at the commencement of the year, and also on the arrival of Spring. The latter of these accounts has a peculiar interest, when we connect it with the customs so nearly resembling it, which were prevalent in England in former times.

Great preparations are made among the Chinese, to usher in their new year, which commences about the middle of February. One of our authorities states that twenty days previous to New Year's day are set apart for preparations, and twenty days afterwards for the enjoyment of the customary festivities. Mr. Bingham, however, speaks of the diversions lasting at Macao only ten days. On these occasions the Chinese frequently indulge in a novel kind of game at shuttlecock. Seven or eight persons form a ring, and when they have thrown the shuttle into the air, they endeavour to keep it up by striking it with the hands or feet; but their thick shoes prevent their being very expert at this game. Another diversion is as follows; in a temporary shed are ranged a number of tasteful ornaments, such as miniature pagodas made of wood and coloured paper, &c. Before each of these is placed a gaily coloured round pillow with a firework in the centre of it. When all is ready these pillows are brought out one by one, and the match being lit, it is placed on the ground and exploded, sending up a small feathered arrow on which is marked its respective prize, and whoever catches it, receives the specified ornament: one arrow however, may be considered a blank, as the party catching it has to provide a similar entertainment the following year.

At this season there is general holiday-keeping and feasting, and small fire-works are discharged almost incessantly night and day.

There is also a season of public festivity designated "the introduction of Spring," which begins when the sun is in the fifteenth of Aquarius. Families go to the temple to worship, and travel into the country for amusement during the continuance of the festival. It comprehends ten days, variously designated according to the following order: fowl, dog, pig, sheep, cow or buffalo, horse, man, grain, hemp, and pea-day. The seventh or man-day is the most important. At this season an image of the human form is made of clay at the expense of government, and called Tae-suy, which is worshipped as the god of the year, in allusion to the cycle of sixty years employed by the Chinese in their chronological computations, together with a buffalo of the same materials, denominated the spring buffalo. On the day preceding the term, the magistrate of every provincial city (*che-foo*) the chief officer of the district (*foo*), goes out in state to meet the Spring, when he offers sacrifice and makes prostrations to these two figures. Several children are also dressed out in the gayest attire by the inhabitants of different streets, who tax their fancy to emulate each other in splendid dresses: they are called



"spring colours," and are placed on tables, and carried on the shoulders of persons who parade the streets with them. The next day the magistrate already alluded to goes forth as the priest of Spring, in which capacity he is the greatest personage in the province, and with his whip strikes the buffalo two or three times in token of commencing the labours of agriculture. It is then broken in pieces with stones by the populace, who expect from this circumstance a year of plenty. The decorated tables, with the living figures upon them, are taken to the various public offices to return thanks for the silver medals distributed on these occasions.

We learn from Scott that a favourite diversion of the Chinese during the winter months is kite-flying. Their kites have a hole in the centre, across which are placed several strings; and when they are up in the air, the wind passing through the hole produces a loud humming noise. Some of them are very pretty and ingenious, being in the shape of birds and butterflies, the wings of which are made of loose thin paper, which flutters about as they rise into the air.

Davis gives a more particular account of these kites, which we here subjoin.

In kite-flying the Chinese certainly excel all others, both in the various construction of their kites, and the heights to which they make them rise. They have a very thin as well as tough sort of paper, made of refuse silk, which, in combination with the split bamboo, is excellently adapted to the purpose. The kites are made to assume every possible shape: and, at some distance, it is impossible occasionally to distinguish them from real birds. By means of round holes, supplied with vibrating cords or other substances, they contrive to produce a loud humming noise, something like that of a top, occasioned by the rapid passage of the air as it is opposed to the kite. At a particular season of the year not only boys but grown men take a part in this amusement, and the sport sometimes consists in trying to bring each other's kites down by dividing the strings.

## SPEAKING MACHINES.

### I.

AMONG the automata constructed at different periods by ingenious men, some of the most curious are those relating to the imitation of speech, and of other sounds emanating from the vocal organs of men and animals. In the recorded instances bearing more or less on this matter, some are mere deceptions, wherein the sounds, though apparently emitted by pieces of mechanism, depend on a mere juggle; while in other cases mechanism has been so contrived as to impart to a current of air the character of speech or of singing.

Having in a former volume\* noticed many automatic contrivances of various kinds, we shall here attempt to explain the principles whereon M. de Kempelen, and more recently our ingenious countryman, Mr. Willis, of Cambridge, have sought to imitate speech, by contrivances in every way scientific and worthy of notice. We shall avoid all mention of the numerous and marvellous statements of ancient and middle-age writers, as to speaking-statues and oracles; since it is now pretty well known that so far as speech of any kind was produced, it resulted from a concealed confederate, and was therefore a mere imposition on the credulity of the auditors.

The first thing we have to consider is—what are the sounds which the mechanist proposes to imitate? Wherein do a sentence, a word, a syllable, a letter differ one from another? It is not difficult to see that, though the teeth, the lips, the palate, the tongue, and the back and sides of the mouth, modify the sound produced, yet the *vowels* are the true materials of speech. In the same manner that variety of pitch forms the groundwork of music, modified by length of note, loudness of tone, and varied expression; so do the vowels appear

to be the groundwork of vocal language, modified by the action of the tongue, teeth, lips, palate, and mouth generally. This is so far understood, that for ages the elements of language have been divided into two great classes, *vowels* and *consonants*. There is, however, at the present day, a strong tendency to depart from the classification formerly used, because, it is found, on careful analysis, that many sounds in the English language have no single characters to express them, whereas others, represented by single characters, are in reality, compound sounds. It will conduce to the clearness of our details to state the views entertained on this subject by two eminent writers on the philosophy of voice, Professor Wheatstone, of London, and Dr. Rush, of Philadelphia. We will consider them in succession.

Mr. Wheatstone remarks:—

The vowels are formed by the voice, modified, but not interrupted by the varied positions of the tongue and lips. Their differences depend on the proportions between the aperture of the lips and the internal cavity of the mouth, which is altered by the different elevations of the tongue. The vowel-sound "*aw*," as pronounced long in "*fall*," and short in "*folly*," is formed by augmenting the internal cavity by the greatest possible depression of the tongue, and at the same time enlarging the separation of the lips.

Taking this sound as a standard, Mr. Wheatstone compares all other vowel sounds with it, by arranging them in the following table.—

Aw . . . .	O . . . .
Ah . . . .	Ou
Ae . . . .	Eü
A . . . .	Eü
E . . . .	Ü

Departing from the standard sound "*aw*," there are two series, the one represented in the left-hand vertical row of the table, and the other in the upper horizontal row; in the first, the external aperture remains open, while the internal cavity gradually diminishes by the successive alterations of the tongue; in the second, the tongue remains depressed, while the aperture of the lips is gradually diminished. The second vertical column gives an intermediate series of vowel sounds, obtained by different elevations of the tongue when the lips are partially closed; these, though abounding in many foreign languages, are not used in our own. All the most usually-pronounced vowel-sounds are indicated in the table; but practised ears may distinguish others intermediate in each series; for each vowel may pass to the next in order, either above or below it, by imperceptible gradations. All these vowel-sounds are subject to modification, according as the soft palate is raised so as to prevent the sound from issuing through the nasal channels, or as it is depressed so as to allow the partial escape of breath through the nostrils; the latter modification, though much employed by the French, is not permitted in the English language. Of the general capabilities of our vowel-sounds Mr. Wheatstone remarks:

The extreme inadequacy of our written language in its representation of the articulations of speech is very obvious. We have six characters which are called vowels, each of which represents a *variety* of sounds quite distinct from each other; and while each encroaches on the powers of the rest, many simple vowels are represented by combinations of two letters. On the other hand, some simple vowel letters represent true diphthongs, consisting of two distinct simple vowels, pronounced in rapid succession; thus *a* consists of *a* and *e*, *i* of *ah* and *e*, *u* of *e* and *u*. Again, the literal diphthongs are mostly simple vowel sounds, as *ea* in "*bleak*," *ie* in "*thief*," &c. This want of correspondence between the characters of our written, and the sounds of our spoken language, has been a great obstacle to the proper understanding of the real elements of speech. A child is taught that the letters *w, h, y*, make the syllable "*why*;" now if we examine the sound of this word, we shall find it to be formed by the rapid succession of the vowel sounds *u, ah, e*. In attempting, therefore, to imitate by artificial means the sound of this word, we should pay no regard to the letters of which it is formed; the elementary sounds alone

\* See *Saturday Magazine*, Vol. XVIII, pp. 62, 63.

are the objects of our attention. The same observation is generally applicable to the words of our language.

In classifying the *consonants*, Mr. Wheatstone attends to the same principles which guide him in his analysis of vowel-sounds. He disregards the alphabetic characters which so inefficiently represent them, as also the names by which these characters are designated. He adduces the letters *g* and *x* as instances where a simple character is made to represent a compound sound; and the letter *s* as the representative of four different sounds, as in "*sea*," "*his*," "*vision*," and "*sure*;" while on the other hand the compound characters *sh*, *th*, *dh*, *ng* in "*song*" &c., are representatives of single sounds.

Acting on these principles, Mr. Wheatstone arranges the consonants into three classes, which he names *mutes*, *sonants*, and *narisonants*; the first two differing chiefly in the amount of audibility; while the third requires that breath should pass through the nostrils. He further subdivides them into *explosive* and *continuous* consonants; the first being those wherein the breath or voice is entirely stopped before the sounding is commenced, and then released suddenly; the others being those not so distinguished.

	Mutes.	Sonants.	Narisonants.
Explosive.	P	B	M
	T	D	N
	K	G	Ng
Continuous.	F	V	
	• Sh	Y	
	S	Z	
	T	Dh	
	• Ll	R	
	Kh	Lh	

Mr. Wheatstone recommends, that in order to test and compare these consonants, it will be desirable to articulate them with the same vowel, as *Pe*, *Te*, *Be*, &c.

An important and interesting feature in the above table is the link which connects the sounds in the first and second columns. When the vocal organs are in the proper position for uttering any one of the articulations of the first column, a different quality may be given to it according as it is accompanied or not by the sound of the larynx. Thus, for *f* and *v* the tongue, lips, teeth and palate are used in a similar manner; the only difference being that, to produce the latter, a sound is emitted from the chest, or rather from the vocal mechanism at the bottom of the throat. A similar difference is observable between *p* and *b*, *t* and *d*, &c.; indeed, every *sonant* has its corresponding *mute*.

This rule, (says Mr. Wheatstone,) seems to be violated, however, with regard to the sounds *l* and *n*. But though the corresponding mutes of these sounds are not in the English language, they are to be found in other tongues. The sound denoted in Welsh by *ll*, is the mute corresponding to our *l*; and though it is extremely difficult to catch this sound from merely hearing it pronounced, attention to the rule will enable any one to articulate it properly in a few minutes. The organs must be in a proper position for articulating *l*, but the voice must not sound; or, in other words, the *l* must be whispered, and then followed by the vowel.

By this mode of analysing vocal sounds, Mr. Wheatstone showed that any piece of mechanism which could produce the sounds in the first column might be made to produce also those in the second, and even in the third also, by introducing a mode of emitting an audible sound as if from the larynx and (in the case of *m*, *n*, and *ng*), producing a sound similar to speaking through the nostrils.

Let us next consider the mode in which Dr. Rush treats the analysis of vocal sounds. This gentleman, who is an American physician, has written a work on the *Philosophy of the Human Voice*; in which, as an introduction to some curious disquisitions on oratory and

language, he divides the vocal sounds of the English language into thirty-five elements. The imperfections and redundancies of the language are such that he wisely abandons the use of specific characters to represent sounds, but adopts well-known words in which the sounds in question are heard. The following will represent the classification:—

Tonic diphthongs=*a-ll*, *a-rt*, *a-n*, *a-le*, *i-sle*, *o-ld*, *ou-r*.

Tonic monothongs=*ee-l*, *oo-ze*, *e-rr*, *e-nd*, *i-n*.

Subtonics=*b*, *d*, *g*, *v*, *z*, *y-e* *w-o*, *th-en*, *a-z-ure*, *ng*, *l*, *m*, *n*, *r*.

Aspirations=*u-p*, *ou-t*, *ar-k*, *i-f*, *ye-s*, *h-e*, *wh-eat*, *th-in*, *pu-sh*.

In this table, when any doubt might exist as to the sound meant, a short word is given wherein the sound occurs; in other cases a letter only is used.

The first two of these divisions include what are generally termed *vowel* sounds, but which Dr. Rush terms *tonics*, as being the foundation and support of vocal enunciation. They are produced by the joint functions of the larynx and mouth, through which the air must pass in their formation. The tonics have a more musical quality than the other elements; they are capable of indefinite prolongation; they admit of ascent and descent through all the intervals of pitch, and they may be uttered more forcibly, and with more abruptness, than the other elementary sounds.

But the first and second divisions, though alike in possessing the qualities just enumerated, differ in this circumstance,—that the vowel, in each example of the first division, really represents a double sound or diphthong. When the letter *a*, as heard in the word "*day*," is pronounced simply as an alphabetic element, without intensity or emotion, two sounds are heard in succession. The first has the nominal sound of this letter, and issues from the organs with a certain degree of fulness; the last is the element *e*, as heard in "*eve*." Now Dr. Rush conceives that the seven sounds included in the first division have this double character, and he thence denominates them tonic diphthongs. The remaining five tonics seem to present nothing of this duplication, and hence obtain the name of monothongs.

The third and fourth classes correspond, in some degree, with the *mutes* and *sonants* in Mr. Wheatstone's classification. The aspirations are a sort of articulated whisper, that is, a whisper modified by the tongue, lips, &c.; whereas, the *subtonics* have the vocal quality of the tonics, though in a smaller degree. The sound of the subtonics is less agreeable than that of the tonics. The clearness and brilliancy which distinguish the tonics, are in the subtonics obscured, or even destroyed by a kind of aspiration which partially destroys the latter tones. The subtonics are capable of more or less prolongation; but they do not admit of much force, nor can abruptness be given to them with any considerable effect.

In presenting the above details, we have not ventured to decide which is the most philosophical mode of analysing and classifying the elementary sounds of language. There are other classifications to which we may hereafter invite attention: our present object is to acquaint the reader with certain general principles which must guide the mechanician in the imitation of vocal sounds. He must pay attention, not to the names of the letters of the language, but to the *sounds* of the language; for unfortunately these do not always correspond. If, taking Mr. Wheatstone's instance for illustration, the mechanician wished to produce a speaking figure capable of uttering the word "*why*," he must utterly discard the nominal values of the three separate letters *w*, *h*, and *y*; and attend to the three sounds *u*, *ah*, *e*, or *oo*, *ah*, *e*, which, if heard in rapid succession, give a near approximation to the sound of the word "*why*." This being understood, we shall endeavour in a future number to explain the modes in which the difficulties of such mechanical contrivances have been attempted to be surmounted.



## POWER AND MAGNIFICENCE OF ENGLAND.

We quote from an American work the following testimony to the greatness of our country. The writer is by no means over-partial to us; but the passage is an eloquent one, though the facts which he states are evidently far from agreeable to him.

In England or out of England, one is everywhere met with the evidence of her greatness. Whether he stand in the centre of London and feel the pulsations of that mighty heart which sends its life-blood to the farthest extremities of the British empire, or enter her palaces and manufactories, or walk along her docks, or travel the world, the exclamation is still, "Great and Mighty England!"

Her power seems omnipresent, her ships circle the pole, and "put a girdle round the earth." Her cannon look into every harbour, and her commerce flows into every nation. She has her word to say in every part of the habitable world. Scarcely a nation projects an outward scheme without first looking up to behold the aspect which England will assume toward it. Nineteen hundred years ago the Roman standard first floated on the shores of Britain. Then a race of barbarians, clothed in the skins of wild beasts, roamed over the uncultivated island. The tread of the legions was then heard on the plains of Africa and Asia, and the name of Rome was written on the front of the world. Nearly two thousand years have rolled by, and Julius Cæsar and all the Cæsars, the senate, the people, and the empire of Rome have passed away like a dream. Her population now only a little exceeds that of New York State,—while that island of barbarians has emulated Rome in her conquests, and not only planted and unfurled her standard in the three quarters of the globe that owned the Roman sway, but laid her all-grasping hand on a new continent. Possessing the energy and valour of her Saxon and Norman ancestors, she has remained unconquered, unbroken, amid the changes that have ended the history of other nations. Like her own island that sits firm and tranquil in the ocean that rolls round it, she has stood amid the ages of man and the overthrow of empires.

A nation thus steadily advancing over every obstacle that checks the progress or breaks the strength of other governments; making every world-tumult wheel in to swell its triumphal march, must possess not only great resources, but great skill to manage them. Looking out from her seahome she has made her fleets and her arms her voice. Strength and energy of character, skill, daring, and an indomitable valour exerted through these engines of power, have raised her to her present proud elevation.

Her navy embraces *six hundred vessels*\*. Besides these she has fleets and steam-ships and packets so constructed as to be easily converted into war ships. In the short space of two months she could send a hundred and fifty more steam-frigates well equipped to sea, making in all seven hundred and fifty war vessels; so that she could stretch a line of battle ships from Liverpool to New York, each separated only four miles from the other. Twenty-seven millions of people in the three kingdoms sit down in the shadow of her throne. In the East a hundred and fifty millions more come under her sway, beside the vast number civilised and uncivilised, that inhabit her provinces in every quarter of the globe. The *Liverpool Times*, in announcing the birth of the Prince of Wales, thus sums up the vast extent of the empire:—"Salutes in honour of his birth will be fired in America,—on the shores of Hudson's Bay, along the whole line of the Canadian Lakes, in New Brunswick, Nova Scotia, Newfoundland, in the Bermudas, at a hundred points in the West Indies, in the forests of Guinea, and in the distant Falkland Islands, near Cape Horn.—In Europe, in the British Islands, from the Rock of Gibraltar, from the impregnable fortifications of Malta, and in the Ionian Islands.—In Africa, on the Guinea Coast, and St. Helena and Ascension, from the Cape to Orange River, and at the Mauritius.—In Asia, from the fortress of Aden in Arabia, at Karack, in the Persian Gulf, by the British arms in Afghanistan, along the Himalaya mountains, the banks of the Indus and the Ganges, to the southern point of India, in the island of Ceylon, beyond the Ganges in Assam and Arracan, at Prince Wales's Island, and Singapore, on the shores of China, at Hong Kong, and Chusan, and in Australia, at the settlements formed on every side of the Australian

continent and islands, and in the Strait which separated these Islands of the New Zealanders. No Prince has ever been born in this or any other country, in ancient or modern times, whose birth would be hailed with rejoicing at so many different and distant points in every quarter of the world."

Here Brother Jonathan breaks out somewhat ill-naturedly:—

After glancing over this catalogue of countries he might well inquire where is there a spot where English cannon do not speak English power? Of her rejoicings at home, we have nothing to say. Let her hail the birth of a monarch, who *may* be, with acclaims, bell-rings, and the firing of cannon, till "the fast anchored isle" rock to the Jubilate, the world may listen or not, as it pleases. But the echo of her guns north of Boston and New York—beyond the Rocky Mountains—south of Florida—and east of Charleston, has something startling and ominous in it. Along the St. Lawrence, Lake Ontario, Erie, and Michigan, one long booming shot rolls down over these free States, saying, "England is here, and her cannon too." The wandering tribes of the western prairies and Guianian forests hear it and cower back to their fastnesses, for England is there. It sends terror through millions of hearts as it thunders from the harbours and fortresses of the East Indies. The vessels entering the Mediterranean turn an anxious eye to the rocks of Gibraltar, as the smoke slowly curls up their sides: and the report of a thousand cannon say in most significant language that England is there. To the reflecting man there is *meaning* in that shot which goes round the earth, England sends her messengers abroad to every nation, and the insignia of the power are scattered among all the tribes of the great family of man; while she sits amid the sea, as if her power was the centre of tides, whose pulsations are felt on every shore, and up every continent-piercing river.

## THE COLOSSEUM AT ROME\*.

I HAIL thy desolation, blood-stained pile!  
'Tis as it should be! 'Mid the prostrate halls  
Of Justice and of Piety,—where senators  
Gave peace to nations, or the white-robed choirs  
Chanted hosannas to the King of kings,—  
There let the stranger ruminate;—there weep  
For Time's insatiate ravages. But here,  
Where earth is rank with carnage,—blood of man  
Wasted in hideous revelry by man;  
While coward Wealth and bloated Power looked on,  
And congregated myriads yelled applause  
In frantic exultation; even the maid,  
With lip departed and suspended breath,  
Gasping in curious earnestness, surveyed  
The writhe of mortal agony;—shall we weep?  
Weep—that the tide of Time hath swept them hence,  
And left their mansions desolate,—their halls  
Of murderous triumph silent, echoless  
As their own graves!—that Rapine's felon hand  
Hath rent thy pond'rous architrave; and dislodged  
Thy deep embedded cornice, and unlocked  
Thine adamant vault's gigantic mass?  
—Yet thou art beauteous! From thine every part  
A thousand dreams of ages passed away  
Crowd on the eye of fancy,—from the arch  
Tier above tier in long succession piled,  
Through which the azure canopy of heaven  
Beams in unclouded brilliance, to the vault  
Black in its dense profundity of shade:  
Whilst o'er thy mould'ring galleries, straggling wild  
The tangled foliage, Nature's mantle, veils,  
In graceful negligence, the guilty scene.  
Be ever thus, proud fabric! With that brow  
Of shattered grandeur still to after ages  
(More eloquent than all the lore of schools,) whisper  
Whisper of man's mortality. And thou,  
Stranger! if well attuned thy thoughts, receive  
The solemn lesson! turn thee from the scene  
Of Pagan godliness to Man redeemed—  
To Man o'er Death victorious, led from earth  
By perfect holiness and Christian love.

BISHOP SHUTTLEWORTH.

\* Strange to say, the American has understated the fact: the *Official Navy List* for January, 1843, contains no less than six hundred and seventy ships and vessels of war.

\* See *Saturday Magazine*, Vol. III., p. 97.

## JAMES WATT,

## THE INVENTOR OF THE STEAM-ENGINE.

THE leading epochs of Watt's life are too familiar to dwell upon; but they may be here noted for the sake of reference. He was born in 1736, and died in 1819. In 1755 he came to London, and placed himself with Mr. Morgan, a mathematical and nautical instrument maker in Finch Lane, Cornhill. In 1757 he settled in Glasgow; but the corporations molesting him as an interloper, the University "protected him, by giving him a shop within their precincts, and by conferring on him the title of mathematical instrument maker to the University." A few years after he was required to perfect a model of one of Newcomen's steam-engines, used by the Professor of Natural Philosophy in his lectures, which would scarcely ever work satisfactorily; and his mind being turned to the subject, he completed his great invention in 1765. Some time elapsed, and some difficulties were encountered, before it could be brought into practical operation; and then the inventor was harassed by piratical opponents, and by the opposition raised in parliament to an extension of his patent; which, however, he attained in 1775, for twenty-five years; and on its expiration in 1800, he retired from business with an ample fortune.

Watt was so delicate that his parents did not venture to impose anything in the shape of severe tasks upon him; they left him very much at liberty in the choice of his occupations, and it will be seen he did not abuse the indulgence. A gentleman one day calling upon Mr. Watt, observed the child bending over a marble hearth, with a piece of coloured chalk in his hand; "Mr. Watt," said he, "you ought to send that boy to a public school, and not allow him to trifle away his time at home." "Look how my child is employed, before you condemn him," replied the father. The gentleman then observed that the child had drawn mathematical lines and circles on the hearth. He put various questions to the boy, and was astonished and gratified with the mixture of intelligence, quickness, and simplicity displayed in his answers; he was then trying to solve a problem in geometry. Influenced by his parental solicitude, Mr. James Watt very early put a number of tools at the disposal of the young scholar, who very soon used them with the greatest possible address. He would take to pieces and again put together the various toys that came within his reach, and he was very active in making new ones. Somewhat later he undertook the construction of a small electrical machine, whose brilliant sparks became a lively source of amusement and surprise to his young companions.

Upon the whole, Mr. James Watt augured most favourably of the nascent powers of his child. Some other of his more distant relatives, less discerning, did not share in these hopes. His aunt, Mrs. Muirhead, sitting with him one evening at the tea-table, said "James, I never saw such an idle boy! Take a book, or employ yourself usefully. For the last half-hour you have not spoken a word, but taken off the lid of that kettle and put it on again, holding now a cup, and now a silver spoon over the steam; watching how it rises from the spout, and catching and counting the drops of water" formed by condensation.

Every meeting of the Lunar Society gave fresh occasion to remark the uncommon fertility of invention with which Watt was endowed. "I have thought," observed Dr. Darwin one evening, "of a kind of double pen, a pen with two points, by which one might write the same thing twice over at the same time, and thus supply himself at once with the original and with a copy." "I hope," replied Watt, almost immediately, "to discover a better method for accomplishing the same object. I will mature my ideas to-night, and communicate them to you to-morrow." The copying-press was invented the next day; and even a small model was prepared, ready to show its powers. This most useful instrument, now so generally adopted in all the offices and counting-rooms in England, has recently received some slight modifications, of which various artists have assumed the credit to themselves; but I can truly affirm, that the present form was described and delineated as early as the year 1780 in the patent of our Associate.

A water-company in Glasgow had established, on the right bank of the river Clyde, great buildings and powerful machines, for the purpose of conveying water into every house in the town. When the works were completed, it was discovered that on the other side of the river there was a spring, or rather a kind of natural filter, which abundantly supplied water of a very superior quality. To remove the

works was now out of the question; but a question arose as to the practicability of drawing the water from wells on the left bank, by means of the pumping engines then existing on the right bank and through a main-pipe to be carried by some means across the river. In this emergency Watt was consulted; and he was ready with a solution of the difficulty; pointing to a lobster on the table, he showed in what manner a mechanist might, with iron, construct a jointed tube which would be endowed with all the mobility of the tail of the crustacea; he accordingly proposed a complete jointed conduit-pipe, capable of bending and applying itself to all the inflections, present and future, of the bed of a great river; in fact, a lobster-tail of iron, two feet in diameter, and a thousand feet in length. He soon after furnished plans in detail, and drawings; and the design was executed for the Glasgow Water Company, with the most complete success.—*ARAGO's Life of Watt.*

## SIBERIAN COLD.

THE cold still continued, and the thermometer constantly indicated 58°. In such a temperature a journey in sledges would have been very disagreeable, but on horseback the actual suffering is such as cannot well be imagined by those who have not experienced it. Covered from head to foot in stiff and cumbersome furs, weighing thirty or forty pounds, one cannot move; and under the thick fur-hood, which is fastened to the bear-skin collar and covers the whole face, one can only draw in, as it were by stealth, a little of the external air, which is so keen that it causes a very peculiar and painful feeling to the throat and lungs. The distance from one halting-place to another takes about ten hours, during which time the traveller must always continue on horseback, as the cumbersome dress makes it impossible to wade through the snow. The poor horses suffer at least as much as their riders, for besides the general effect of the cold, they are tormented by ice forming in their nostrils and stopping their breathing: when they intimate this, by a distressed snort and a convulsive shaking of the head, the drivers relieve them by taking out the pieces of ice, to save them from being suffocated. When the icy ground is not covered by snow, their hoofs often burst from the effects of the cold. The caravan is always surrounded by a thick cloud of vapour: it is not only living bodies which produce this effect, but even the snow smokes. These evaporations are instantly changed into millions of needles of ice, which fill the air, and cause a constant slight noise, resembling the sound of torn satin or thick silk. Even the rein-deer seeks the forest to protect himself from the intensity of the cold; in the tundras, where there is no shelter to be found, the whole herd crowd together as closely as possible, to gain a little warmth from each other, and may be seen standing in this way quite motionless. Only the dark bird of winter, the raven, still cleaves the icy air with slow and heavy wing, leaving behind him a long line of thin vapour, marking the track of his solitary flight. The influence of the cold extends even to inanimate nature; the thickest trunks or trees are rent asunder with a loud sound, which, in these deserts, falls on the ear like a signal shot at sea: large masses of rock are torn from their ancient sites; the ground in the tundras and in the rocky valleys cracks and forms wide yawning fissures, from which the waters which were beneath the surface rise, giving off a cloud of vapour, and become immediately changed into ice. The effect of this degree of cold extends even beyond the earth; the beauty of the deep blue polar sky, so often and so justly praised, disappears in the dense atmosphere which the intensity of cold produces; the stars still glisten in the firmament, but their brilliancy is dimmed.

## SIBERIAN DOGS.

THE dogs have much resemblance to the wolf. They have long, pointed, projecting noses, sharp and upright ears, and a long bushy tail; some have smooth and some have curly hair; their colour is various—black, brown, reddish-brown, white, and spotted. They vary also in size; but it is considered that a good sledge dog should not be less than two feet seven and a half inches in height, and three feet three quarters in length (English measure.)

Their barking is like the howling of a wolf. They pass their whole life in the open air; in summer they dig holes in the ground for coolness, or lie in the water to avoid the musquitos: in winter they protect themselves by burrowing in the snow, and lie curled up, with their noses covered



by their bushy tails. The female puppies are drowned, except enough to preserve the breed, the males alone being used in draught. Those born in winter enter on their training the following autumn, and are not used in long journeys until the third year. The feeding and training is a particular art, and much skill is required in driving and guiding them. The best trained dogs are used as leaders, and as the quick and steady going of the team (usually of twelve) and the safety of the traveller depend on the sagacity and docility of the leader, no pains are spared in their education; so that they may always obey their master's voice, and not be tempted from their course when they come on the scent of game. This last is a point of great difficulty; sometimes the whole team, in such cases, will start off, and no endeavours on the part of the driver can stop them. On such occasions we have sometimes had to admire the cleverness with which the well-trained leader endeavours to turn the other dogs from their pursuit; if other devices fail, he will suddenly wheel round and by barking, as if he had come on a new scent, try to induce the other dogs to follow him. In travelling across the wide tundra, in dark nights, or when the vast plain is veiled in impenetrable mist, or in storms or snow-tempests—when the traveller is in danger of missing the sheltering *powarna*, and of perishing in the snow—he will frequently owe his safety to a good leader. If the animal has ever been in this plain, and has stopped with his master at the *powarna*, he will be sure to bring the sledge to the place where the hut lies deeply buried in the snow; when arrived at it he will suddenly stop, and indicate, significantly, the spot where his master must dig.

[VON WRANGEL'S *Expedition to the Polar Sea*.]

## HISTORICAL NOTICE OF THE CHARTER-HOUSE. II.

THE estates with which the benevolent Thomas Sutton\* endowed the Charter-House consisted chiefly of freehold property, and according to the rental in 1673. consisted of the estate about the Charter-House, namely, in the lane and the yard before the house, and the backside of the wilderness, now called Sutton's Street. Also of some lands at Hackney, in Middlesex; the leasehold, free and customary rents and farm-rents of property at Southminster, Cold Norton, Great Stanbridge, Little Hallingbury, all in Essex; Castle Camps, and Balsham Manor in Cambridgeshire; Buslingthorpe and Dunsby, in Lincolnshire; Elcombe Manor and Park, in Wiltshire; the ancient revenue of the whole being 4493*l.* 19*s.* 10½*d.*

But upon winding up the accounts there remained in the hands of the executors a considerable sum of money which they were directed to bestow in additional purchases. This was accordingly done, and property was bought in Cold Norton, Elmstead Park, Tryans, Jackletts, and Little Wigborough, all in Essex; Higney Grange and Isle, in Huntingdonshire, Fulstow Marsh Chapel and Tetney, in Lincolnshire; Hartland, in Devonshire; West Black Loft, Saddlethorpe, Yokefleet, and Bellasis, in Yorkshire; Bockleton in Shropshire; and Thickwood, in Wiltshire; the revenue of the newly purchased lands being then 897*l.* 13*s.* 9½*d.*

The gross rental, consisting of farm rents, quit rents, manorial profits, and timber and underwood, in the year ending at Michaelmas, 1815, exceeded 22,000*l.*

And it is considered, (writes Mr. Carlisle,) that there is not a better managed estate in England, whether regarding the condition of the premises, the responsibility of the tenants, or the mode of cultivation. All the estates are at rack rent, and none are let upon fines; they are generally upon twelve years' leases. The estates have increased more than double within the last twenty-seven years.

The yearly expense of the House in 1815 was about 18,000*l.*, including all outgoings.

The government of this splendid Foundation is fixed in the highest personages of the State, "and it is gratifying to notice further the wisdom of the founder, in making choice of those who are able to maintain his foundation by their interest, and to grace it with their

honour." Vacancies among the governors are filled up within two months by the votes of the governors in office; but if they fail to do so within the time required, the appointment devolves on the Crown. The seal of the governors consists of Mr. Sutton's arms.

The pensioners and scholars are nominated by individual governors in their turn, according to a list made by order of assembly whenever it is necessary; and the person nominated, if he be qualified, is certain to succeed, although the vacancy should not occur until after the governor's death. The number of pensioners is limited to eighty. They are fed and lodged, and have a cloak towards their clothing; together with an allowance of 20*l.* (formerly only 14*l.* per annum,) for pocket-money. The class in society from which the poor men are taken depends entirely upon the discretion of the governor who gives his nomination. By an order made at an early period in the history of the institution it was provided that—

No rogues nor common beggars, but such poor persons as can bring good testimony of their good behaviour and soundness in religion; and such as have been servants to the king's majesty; either decrepid or old captains, either at sea or land; soldiers maimed or impotent; decayed merchantmen, fallen under decay through shipwreck, casualty of fire, or such evil accident; those that have been captives under the Turks, and such like;

should be admitted. By a recent regulation of the governors, the pensioner is required to have been a housekeeper for a certain period prior to his election. They must be, of decayed fortunes, because they are to declare their poverty upon admission; this declaration is to be under 20*l.* per annum, or under a given sum in the whole. If a pensioner dies between Christmas and Lady-Day, his successor is not admitted into the house until after Lady-Day.

According to Malcolm the pensioners seldom live more than ten years to enjoy the excellent charity provided for them, and—

Whence, (he says,) does this arise? Surely not from their mode of living. Plenty, the best of plain provisions, and cleanliness, forbid such a supposition. It is a grand and affecting sight to see the majestic hall, decorated even for royalty, with tables arranged with shining metal, supported by a large loaf to each plate, and covered by dishes smoking with excellent viands, excellently cooked, and eighty ancient, respectable, venerable men, seated, partaking of the bounties of the immortal Sutton, a bounty of nearly two hundred years' standing. If we follow those men to their apartments we find them furnished with every necessary to make them comfortable. Their age is such as to preclude a wish for excesses, nor are such permitted. Their minds are kept as quiet as possible, by every discouragement of dissension, and they are led to prayer twice in each day. Surely all this should tend to preserve health and life, even to patriarchal years.

This is a proof of the miserable state of man, who is obliged to owe his existence to many causes which are not to be controlled. Here we find him solitary in the midst of numbers. The pensioner must be old, unmarried, and desolate, before he can be admitted. He retires to his bed, and rises in the morning without a friend to converse with. He has had relations, but they are not with him; his affections wander towards them; regret amidst plenty invades his thoughts; his spirits sink, and his body wastes till death relieves him. Such is man without the society of his relatives. Yet think not, reader, I condemn those regulations expelling friends: the weary pensioner deprived of them by calamity, is here sheltered and protected. What would be his fate, had he not such an asylum!

The number of scholars upon the Foundation was originally limited to forty; but two more have been added in consequence of the improved state of the funds. They are almost entirely supported by the House, during their stay at school, very few charges falling on the parents besides those for school-books and washing their linen. They wear the academic cap, with a black gown, jacket and breeches. "They are generally the sons of gentlemen with large families and moderate fortunes, to whom an academic education is an object."

\* See p. 21.

None are admitted upon the Foundation under the age of ten years nor above fourteen. The age of the child is certified by an extract from the register of baptisms in the parish where he was baptized, or if that cannot be produced, by an affidavit of the parent. The time of their continuance at school depends on the proficiency which they make in learning, but they generally proceed to the University as Exhibitioners between the ages of seventeen and nineteen. The Exhibitioners are elected by the Board of Governors after undergoing a public examination; their sufficiency being certified by the examiners, who are generally the chaplains of the Archbishop of Canterbury. The number of Exhibitions does not seem to be limited, but they are wholly confined to boys upon the Foundation, who go to any college in Oxford or Cambridge at their own option. They are allowed 80*l.* a year, for the first four years; and, if they graduate regularly, they are allowed 100*l.* a year for the next four years, upon producing certificates of residence and good behaviour to the Master of the Hospital.

Those boys who are designed for trade have an apprentice fee of sixty pounds.

In addition to those on the Foundation a large number of boys are educated at this school. The terms for board and education have been fixed by the governors at 57*l.* 12*s.* per annum. But the many extra charges generally raise that sum to about 75*l.* or 85*l.* a year. There are two large boarding-houses in Charter-House Square, kept by Masters of the School; one capable of containing about sixty, and the other about eighty or ninety boys. These boys have in each house a hall or long room, in which they remain during the day, and are admitted into their bed-rooms only at night: observing in every respect the same customs and regulations as the scholars upon the Foundation. Gentlemen who live in the immediate neighbourhood of the Charter-House have an opportunity of sending their sons to the school as day-scholars.

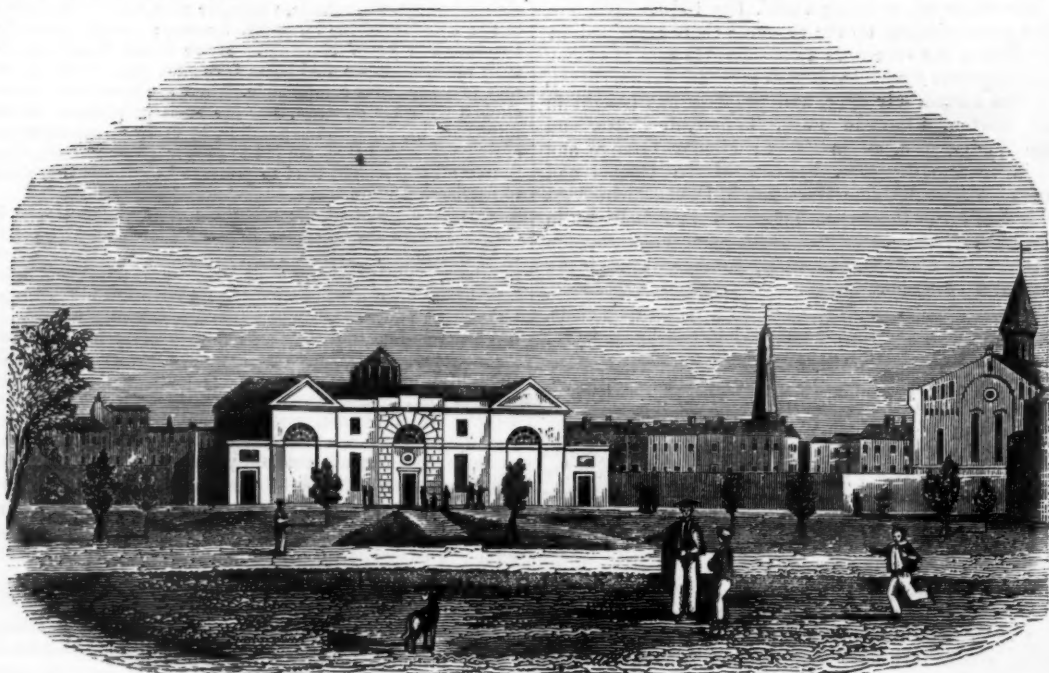
The Master of the School has, according to Mr. Carlisle, a salary under 245*l.* per annum, together with a house and a triennial allowance of linen. He receives no fee or emolument whatever from any of the scholars on the Foundation; and his share of the sum charged on

each of the boarders is fixed by an order of the governors. He has no boys in his own house; but exercises a general control over the scholars, both of the Foundation and the boarding-houses.

The usher or second master has a salary not exceeding 160*l.* per annum, but he has the house No. 15, Charter-House-Square, and a fixed share of the sum charged for each boy's schooling. There are also two assistant masters who preside over boarding-houses.

The history of this admirable Foundation cannot be more appropriately closed than in the words of the commemoration sermon preached many years ago by Dr. Fisher, then the master of the school, at which he had been educated:—

Such is this important establishment, the pious work of one excellent man, who must be allowed to possess a foremost rank among those, who, by their well-directed acts of munificence have claims on the public gratitude as the enlightened benefactors of their country. Embracing in one comprehensive view what are the leading and prominent demands of human nature, and what are the best sources of human happiness, it is the appropriate praise of the memorable founder of this institution, that with a sagacity which is never sufficiently to be admired, and a munificence that cannot be too gratefully recorded, he has made ample provision for both. Weighing, in the balance of his judgment, the characteristic wants and the relative claims of the different stages of human life, he has selected, for the peculiar objects of his bounty, the two extremes of youth and age. Directing, in the first instance, his benevolent attention to the immediate supply of their common necessities, he has providently secured to each respective class of his distribution, the inestimable benefits of a liberal education and a religious retreat. To the furtherance of those important ends, the diffusion of knowledge and the protection of piety, the unabating efforts of his capacious mind were uniformly directed. When we behold whatever in the country is most elevated by office, most illustrious from rank, most dignified by virtue, and most ennobled by talents, compacted into one regular and consistent body for the preservation of our interests, and the administration of our affairs, are we not fortified by a security, the strongest and most incontrovertible, that no supineness can neglect, no corruption touch them; that neither a forgetfulness of the original ends of the institution, nor a perversion of its means, can shake the stability of its foundation?



THE NEW GRAMMAR SCHOOL.